

Serial No.: 10/564,892
Docket No.: 101-1681T
Amendment dated March 10, 2011
Reply to the Final Office Action of January 6, 2011

The listing of claims is provided for the Examiner's convenience:

Listing of Claims:

1. (Currently Amended) An apparatus for performing track jumping in consideration of a position of a pickup, the apparatus comprising:

a pickup to read a signal from an optical disc;

an RF processing unit to generate an error signal to control the pickup by shaping and amplifying the signal read by the pickup;

a servo to judge a current position of the pickup with respect to a center of a track based on the error signal, to receive a track jump command, to generate a track jump start control signal if it is judged that the current position of the pickup at the time of the track jump command is within a reference range with respect to the center the track, and to generate a track jump end control signal; and

a driver to move the pickup directly to a target track of the optical disc in response to the track jump start control signal, and stop moving the pickup in response to the track jump end control signal.

2. (Previously Presented) The apparatus of claim 1, wherein if the judged current position of the pickup is within the reference range, the servo outputs a predetermined voltage as the track jump start control signal to the driver.

3. (Previously presented) The apparatus of claim 2, wherein if the judged current position of the pickup is not within the reference range, the servo cuts off the predetermined voltage from being output as the track jump start control signal to the driver until the judged current position of the pickup is within the reference range.

4. (Currently Amended) A method of performing track jumping in consideration of a position of a pickup, the method comprising:

reading a signal from an optical disc with a pickup;

generating an error signal to control the pickup by shaping and amplifying the signal read from the optical disc by the pickup;

Serial No.: 10/564,892
Docket No.: 101-1681T
Amendment dated March 10, 2011
Reply to the Final Office Action of January 6, 2011

judging a position of the pickup with respect to a center of a track based on the error signal;

receiving a track jump command and generating a track jump start control signal if it is judged that the position of the pickup at the time of the track jump command is within a reference range of the center of the track;

outputting the track jump start control signal to a driver to move the pickup directly to a target track of the optical disc;

generating a track jump end control signal; and

outputting the track jump end control signal to the driver to stop moving the pickup.

5. (Previously Presented) The method of claim 4, wherein:

if the judged position of the pickup is within the reference range, the outputting of the track jump start control signal comprises outputting a predetermined voltage as the track jump start control signal to the driver; and

if the judged position of the pickup is not within the reference range, the outputting of the track jump start control signal comprises cutting off the predetermined voltage from being output as the track jump start control signal to the driver until the judged position of the pickup is within the reference range.

6. (Previously Presented) An apparatus for performing track jumping of an optical pickup in an optical disc recording/reproducing apparatus, the apparatus comprising:

an RF processing unit to generate a positional error signal based on an output signal of the optical pickup;

a servo to judge a current position of the optical pickup relative to a track of the optical disc based on the positional error signal, and to output a tracking control signal to control a position of the optical pickup based on the judged current position;

a driver to control the position of the optical pickup using the tracking control signal output from the servo; and

a controller to monitor the tracking control signal and to control the track jumping based on the tracking control signal, wherein:

if the controller determines that the tracking control signal indicates that the current

Serial No.: 10/564,892
Docket No.: 101-1681T
Amendment dated March 10, 2011
Reply to the Final Office Action of January 6, 2011

position of the optical pickup is within a predetermined range of a center of the track when a track jump command is received by the controller, the controller immediately outputs a track jump start control signal to the driver to move the optical pickup directly to a target track of the optical disc start the track jumping; and

if the controller determines that the tracking control signal indicates that the current position of the optical pickup is not within the predetermined range when the track jump command is received by the controller, the controller delays outputting the track jump start control signal to the driver until the tracking control signal indicates that the current position of the optical pickup is within the predetermined range.

7. (Previously presented) The apparatus of claim 6, wherein after the controller has output the track jump start signal to the driver, the controller calculates the target track and sets an output time of a track jump end signal.

8. (Previously presented) The apparatus of claim 7, wherein the controller outputs the track jump end signal to the driver when the optical pickup arrives at the target track to end the track jumping.

9. (Previously presented) A method of controlling track jumping of an optical pickup relative to an eccentrically rotating track of an optical disc, the method comprising:

judging whether a position of the optical pickup is within a predetermined range relative to a center of the track at a time of a track jump command;

immediately outputting the track jump command to the optical pickup to move the optical pickup directly to a target track of the optical disc if the optical pickup is within the predetermined range; and

delaying the outputting of the track jump command to the optical pickup if the optical pickup is not within the predetermined range.

10. (Previously presented) The apparatus of claim 1, wherein the track jump start control signal is a kick voltage, and the track jump end control signal is a brake voltage.

Serial No.: 10/564,892
Docket No.: 101-1681T
Amendment dated March 10, 2011
Reply to the Final Office Action of January 6, 2011

11. (Previously presented) The method of claim 4, wherein the track jump start control signal is a kick voltage, and the track jump end control signal is a brake voltage.

12. (Previously presented) The apparatus of claim 6, wherein the track jump start control signal is a kick voltage, and the track jump end control signal is a brake voltage.

13. (Previously presented) The method of claim 9, wherein the delaying of the outputting of the track jump command to the optical pickup if the optical pickup is not within the predetermined range comprises:

delaying the outputting of the track jump command to the optical pickup until the optical pickup is within the predetermined range; and

outputting the track jump command to the optical pickup while the optical pickup is within the predetermined range.

14. Previously presented) The method of claim 9, wherein the track jump command is a kick voltage that is output to a driver of the optical pickup.

15. (Previously presented) The method of claim 9, wherein:
the track jump command causes the optical pickup to start moving toward the target track; and

the method further comprises outputting a track jump stop command to the optical pickup when the optical pickup arrives at the target track.

16. (Previously presented) The method of claim 15, wherein the track jump stop command is a brake voltage that is output to a driver of the optical pickup.